

Notice of Allowability

Application No.

09/378,596

Examiner

Samuel Broda

Applicant(s)

GUPTA ET AL.

Art Unit

2123

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Applicants' Preliminary Amendment and Response to Final Office Action.
2. ☒ The allowed claim(s) is/are 16-20.
3. ☒ The drawings filed on 20 August 1999 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.


Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.


SAMUEL BRODA, ESQ.
PRIMARY EXAMINER

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1. This communication is in response to Applicants' Preliminary Amendment and Response to Final Office Action dated 13 July 2004. Claims 1-15 were canceled and claims 16-20 are pending.

Reasons for Allowance

2. The following is an Examiner's statement of reasons for the indication of allowable subject matter:

The closest prior art of record shows:

(1) a method of assigning input/output as defined in a C-type program to specific wires in an HDL synthesizable design (Panchul et al, U. S. Patent 6,226,776);

(2) a graph-theoretic approach for register file-based synthesis using a port assignment modeled by a weighted clique partitioning problem (Ravikumar et al, "A Graph-Theoretic Approach for Register File Based Synthesis");

(3) a method of global register allocation by analyzing a register conflict graph hierarchically based on the parse tree of the input program (Zobel, "Program Structure as Basis for Parallelizing Global Register Allocation"); and

(4) a method of design space exploration for multiport memory synthesis using a partitioned dependence matrix (Chen, "Allocation of Multiport Memory With Ports of Different Type in Register Transfer Synthesis").

2.1 Applicants' set of claims consists of claims 16-20.

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Independent claim 16 is directed to a method for automatic synthesis of a register file and functional unit-register file connect in a processor. This claim identifies the distinct step of: “programmatically computing a resource allocation of register ports in the register file types to read/write port requests, including determining how to share a register port for two or more functional unit ports based on the specification of instruction level parallelism among the specified processor operations”.

Because the closest prior art does not appear to teach or suggest the allocation of register ports including determining how to share a register port based on the specification of instruction level parallelism, claims 16-20 are deemed allowable.

3. Any comments considered necessary by Applicants must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance.”

4. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Samuel Broda, whose current telephone number is (703) 305-1026. This telephone number will be changed to (571) 272-3709 effective 22 October 2004. The Examiner can normally be reached on Mondays through Fridays from 8:00 AM – 4:30 PM.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner’s supervisor, Kevin Teska, currently can be reached at (703) 305-9704. This telephone number

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will be changed to (571) 272-3716 effective 22 October 2004. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the group receptionist, whose telephone number is (703) 305-3900.

A handwritten signature in black ink, appearing to read 'S. Broda'.

**SAMUEL BRODA, ESQ.
PRIMARY EXAMINER**